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The Consistency of China's Safety Requirements with International Standards:

A Case Study on Lithium Ion Batteries

중국 리튬이온전지 안전규제의 국제표준 합치성 연구

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The Consistency of China's Safety Requirements with International Standards:

A Case Study on Lithium Ion Batteries

A thesis submitted by

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Abstract

In December 2013, China notified the WTO of its technical regulation, "Lithium Ion Cells and Batteries used in Portable Electronic Equipments – Safety Requirements." Following the notification, South Korea raised specific trade concerns, contending that China's regulation was not consistent with the relevant international standard. Despite South Korea's repeated requests to China to revise its safety requirements, China's technical regulation was put into force without any revisions, and the implementation of the measure left the question of whether China had granted South Korean exporters a sufficient "reasonable interval" to comply with China's safety requirements. This paper examines the events that occurred between China's notification and implementation of its technical regulation, followed by an analysis of the consistency of China's safety requirements with the relevant international standard and an examination of the "reasonable interval" afforded to South Korean exporters. The paper concludes with recommendations for South Korea for how it can better address similar trade issues with China in the future.

Keywords: TBT Agreement, technical regulations, lithium ion batteries, WTO, China, reasonable interval

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I. Introduction

With the reduction of tariffs worldwide, countries have actively been making use of technical barriers to trade for various reasons. According to the "Twenty-First Annual Review of the Implementation and Operation of the TBT Agreement," a total of 1988 technical barriers to trade (hereinafter "TBT") notifications were made in 2015, and the number of notifications has been hovering around 2000 annually since the year 2008.[1]

China is no exception to this global trend. Since its accession to the World Trade Organization (hereinafter "WTO") in 2001, China has frequently made TBT notifications to the WTO, recording a total of 1253 new notifications during the period of 1995-2015, even with its late entry into the scene.[2] In 2015, China ranked fourth among the most active notifying WTO Members with 106 notifications.[3]

One of China's TBT notifications was made in 2013. GB 31241-2014 (hereinafter "GB 31241"), China's national standard for the safety requirements for lithium ion cells and batteries used in portable electronic equipments, was

[1] G/TBT/38/Rev.1 paras. 3.1.
[2] Ibid., paras 3.7.
[3] Ibid.

the drafted technical regulation that was put into force on January 31, 2016.[4] Prior to its entry into force, South Korea raised specific trade concerns, contesting that the newly introduced technical regulation was not consistent with the relevant international standard and thus needed to be harmonized with it. Following China's notification, the parties exchanged dialogue, but they were not able to agree on a solution that satisfied South Korea.

This paper explores the events that unfolded, beginning with China's notification to the WTO in December 2013 and ending with GB 31241's entry into force in January 2016. Before delving into the actual events, the author will probe into the concept of international standards in the WTO, the role and effects of international standards, and Members' obligations with regards to international standards.

Following the overview of events and the concept of international standards, the paper will compare the Chinese national standard and the relevant international standard to point out the differences between the two and the subsequent impact of these differences on South Korean manufacturers of lithium ion cells and batteries. Moreover, South Korea claimed that China's technical regulation was put into force without granting South Korean manufacturers a "reasonable interval" to meet these requirements. Based on

[4] Korean Agency for Technology and Standards (2017), p.127.

these observations, an analysis will be conducted on the consistency of China's safety requirements with international standards and on the "reasonable interval" given to South Korean exporters.

Finally, the author proposes ways in which South Korea can remedy similar situations in the future through the application of the mediation system of the South Korea-China Free Trade Agreement (hereinafter "Korea-China FTA"), whose lack of details on the mediation procedure renders it necessary to follow after the more thorough mediation mechanism of the South Korea-European Union Free Trade Agreement (hereinafter "Korea-EU FTA"), and through collective action within the WTO dispute settlement mechanism.

II. Background

1. The concept of international standards and international standardizing bodies

The Agreement on Technical Barriers to Trade (hereinafter "TBT Agreement") neither gives a definition of "international standard" nor lists the names of organizations that are recognized as international standardizing bodies.[5] It does, however, define "standard." Annex 1.2 of the TBT Agreement defines it as:

> "[A] document approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labeling requirements as they apply to a product, process or production method."[6]

[5] Schroder (2009), p.1223.
[6] TBT Agreement Annex 1.2.

Then what happens when the word "international" prefixes the word "standard"? The Explanatory Note to Annex 1.2 of the TBT Agreement says that international standards are "standards prepared by the international standardization community" and "are based on consensus," but it continues, "This Agreement covers also documents that are not based on consensus."[7] Schroder explains that a standard is "international" when it is based on consensus, but it also includes documents not based on consensus.[8]

The notion of consensus has been an object of debate. The *EC – Sardines* case sheds some light on how the idea of consensus is to be understood. In this dispute settlement, the European Union claimed that Codex Stan 94 was not adopted by consensus, thus disqualifying it from being an international standard.[9] The Appellate Body disagreed with the European Union, explaining that the TBT Agreement's definition of "standard" includes documents not approved by general agreement, and it reinforced the decision that Codex Stan 94 is a "standard."[10] Therefore, although an international standard may be approved by consensus, the lack of consensus does not necessarily take away from its status as an international standard.

[7] TBT Agreement Annex 1.2 Explanatory Note.
[8] Schroder (2009), p.1225.
[9] Pogoretskyy and Yanguas (2016), p.381.
[10] Ibid.

Moreover, a standard ought to be accepted as an international standard when it is created by an international body or system.[11] Schroder examines GATT and TBT documents to come up with a list of organizations that acknowledges bodies and systems as "international." The first of these documents, the "Proposed GATT Code of Conduct for Preventing Technical Barriers to Trade" tags several organizations, including the International Organization for Standardization (ISO) and the International Electrotechnical Commission (hereinafter "IEC") as "international."[12] The IEC is again mentioned in "Information provided by bodies involved in the preparation of international standards" of 1999.[13] This document names the bodies involved, and it reads, "Presentations were made by the following organizations…the Codex Alimentarius Commission (Codex), the International Electrotechnical Commission (IEC)…"[14] Finally, the "Second TBT Triennial Review" names the ten bodies "involved in the preparation of international standards," including the IEC, invited to the Session.[15]

[11] Schroder (2009), p.1225.
[12] Ibid., p.1226.
[13] Ibid., p.1227.
[14] Schroder (2009), p.1227. The author (Schroder) retrieved the quote from WTO Doc. G/TBT/W/106, *Information provided by Bodies involved in the Preparation of International Standards*, 26 Mar. 1999, at para. 1.
[15] Ibid. The author (Schroder) retrieved the quote from WTO Doc. G/TBT/9, *Second Triennial Review of the Operation and Implementation of the Agreement on Technical Barriers to Trade*, 13 Nov. 2000, at Annex 1, para. 2.

The IEC, making it into the above-mentioned documents, is an organization "open to the relevant bodies of at least all [WTO] Members."[16] IEC membership is open to countries' National Committees, each country being limited to one National Committee.[17] Upon becoming a member, a National Committee may take part in the creation of a standard.[18]

The reason the paper points out these facts is the IEC is the relevant international standardizing body and its standard, IEC 62133:2012 (hereinafter "IEC 62133"), is the relevant international standard for this particular case. Although the TBT Agreement does not explicitly list the IEC or any other organization for that matter as an international standardizing body, GATT and TBT documents recognize the IEC as an international standardizing body.

2. The role and effects of international standards

The opening statement of the TBT Agreement addresses the importance of international standards. It reads:

> "The important contribution that international standards and conformity assessment systems can make in this regard by

[16] TBT Agreement Annex 1.4
[17] International Electrotechnical Commission. (2017). *Who we are*. Retrieved from http://www.iec.ch/about/profile/members.htm (Accessed April 3, 2017).
[18] Ibid.

> improving efficiency of production and facilitating the conduct of international trade; Desiring therefore to encourage the development of such international standards and conformity assessment systems."[19]

The TBT Agreement supports the creation of international standards, which may improve efficiency and facilitate trade. WTO Members are encouraged to take part in the development of these trade-facilitating international standards.

Wijkström and McDaniels explain the reasoning behind the effects international standards have in boosting efficiency and trade. First, international standards reduce unnecessary testing procedures products must go through in different markets.[20] Minor variations in requirements across different markets may inflict economic harm to sellers who plan to sell their product in various markets.[21] International standards reduce these unnecessary hindrances and costs by acting as a basis for a WTO Member country's regulation, thereby gradually eliminating cross-country procedural disparities.[22]

[19] TBT Agreement Preamble.
[20] Wijkström and McDaniels (2013), p.1014.
[21] Ibid.
[22] Ibid.

3. Members' obligations with regards to technical regulations and international standards

First and foremost, the TBT Agreement recognizes WTO Members' rights to take measures "for the protection of human, animal or plant life or health, of the environment, or for the prevention of deceptive practices" as long as the measures do not "constitute a means of arbitrary or unjustifiable discrimination…"[23] This is fair – countries should be able to protect their citizens, animals, and the environment, among other things. The TBT Agreement recognizes Members' rights to take measures in order to fulfill legitimate objectives, but WTO Members are obligated to adhere to certain TBT provisions when their measures, their technical regulations, share a relationship with existing relevant international standards. Article 2.4 of the TBT Agreement says the following:

> "Where technical regulations are required and relevant international standards exist or their completion is imminent, Members shall use them, or the relevant parts of them, as a basis for their technical regulations except when such international standards or relevant parts would be an ineffective or

[23] TBT Agreement Preamble.

> inappropriate means for the fulfilment of the legitimate objectives pursued, for instance because of fundamental climatic or geographical factors or fundamental technological problems."

The usage of "shall use" holds Members responsible for using relevant international standards, in the case that they exist, as a basis for technical regulations. The strong wording appears again in Article 2.5 of the TBT Agreement, which requires that a technical regulation "shall be rebuttably presumed not to create an unnecessary obstacle to international trade."[24]

Even with such binding language, Wijkström and McDaniels mention several causes for concern. First, the term "relevant" allows Members to reject an international standard for not being relevant to their particular situation. Second, if an international standard is accepted as a relevant standard, Members are to use the standard as a basis, but they do not need to follow it exactly as it is, word for word. Finally, a country may conclude that an international

[24] TBT Agreement Article 2.5 reads, "A Member preparing, adopting or applying a technical regulation which may have a significant effect on trade of other Members shall, upon the request of another Member, explain the justification for that technical regulation in terms of the provisions of paragraphs 2 to 4. Whenever a technical regulation is prepared, adopted or applied for one of the legitimate objectives explicitly mentioned in paragraph 2, and is in accordance with relevant international standards, it shall be rebuttably presumed not to create an unnecessary obstacle to international trade."

standard is “an ineffective or inappropriate means for the fulfillment of the legitimate objectives pursued.”[25]

In this way, Members are obligated to use relevant international standards as a basis for their technical regulations, but governments do have some wiggling space. While they may duplicate an international standard as their technical regulation, they also can refer to international standards as guidelines without reproducing them.[26] Therefore, it is possible for countries to cite Article 2.4 to justify the adoption of a measure for which a relevant international standard serves as a guideline. However, since the wording of the technical regulation does not have to be identical to that of the international standard, the measure may deviate from the relevant international standard.

This seems to be the case with China’s technical regulation for lithium ion cells and batteries, which China asserts is based on the relevant international standard. The following portions of this paper will look more closely into this issue.

[25] Wijkström and McDaniels (2013), p.1017.
[26] Ibid., p.1031.

III. Notification to the WTO and Members' specific trade concerns

1. China's technical regulation and notification to the WTO

Developed by the Standardization Administration of the People's Republic of China (SAC), which is the body in charge of standardization in China, China's 36-paged national standard GB 31241, or "Lithium ion cells and batteries used in portable electronic equipments – Safety requirements," is the technical regulation around which the case revolves.[27] The technical regulation is the Chinese counterpart of the relevant international standard, IEC 62133.

As evident in its name, the standard deals with lithium ion cells and batteries used in portable electronic equipment. A look into the actual text of GB 31241 shows the scope of the standard and guidelines for testing conditions, general safety requirements, and specific safety requirements.[28] On December 20, 2013, China notified the WTO of GB 31241.[29] Members were given 60 days after the circulation of the notification to voice their concerns.[30]

[27] International Organization for Standardization. *SAC China*. Retrieved from https://www.iso.org/member/1635.html (Accessed April 14, 2017).
[28] Refer to GB 31241.
[29] G/TBT/N/CHN/1016.
[30] Ibid.

2. Specific trade concerns

WTO Members first commented on China's national standard during the Committee on Technical Barriers to Trade meeting (hereinafter "TBT Committee meeting") held on June 18-19, 2014. China's safety requirement was the first of the new concerns on the meeting's agenda.[31] The measure was further discussed between South Korea and China throughout the following TBT Committee meetings held in November 2014, March 2015, and June 2015.

2-1. Concerns about and requests for harmonization

The central theme of the specific trade concerns raised by South Korea in the four TBT Committee meetings was the criticism of the inconsistency between China's technical regulation and the relevant international standard. South Korea (and Japan for one meeting), pinpointed the differences between GB 31241 and IEC 62133 and repeated its appeals for harmonization.

Japan was the first to speak at the meeting of June 2014. Japan believed that China was obligated under TBT Agreement Article 2.4 to use IEC 62133 as a basis for its regulation, but its safety requirements differed from the international standard. First, Japan said that about 70% of the test items in China's standard were not in conformity with IEC 62133. Second, about 50%

[31] G/TBT/M/63, para. 3.2.2.1.

of the test items were not included in the relevant international standard. Third, 20% of the test items were the same as those written in IEC 62133, but their procedures did not conform to the procedures of the IEC standard.[32]

During the same meeting, South Korea voiced its concerns about the inconsistencies between GB 31241 and IEC 62133. Certain articles of the Chinese technical regulation, particularly Article 6.3, Article 7.2, and Article 7.8, were, according to South Korea, different from the requirements found in corresponding international standards. South Korea continued by asking China to provide reasoning for why some requirements absent in international standards were present in China's draft regulation and asked China to harmonize its national standard with the current IEC 62133.[33]

In the next meeting of November 2014, South Korea added to its concerns about harmonization raised in the previous meeting. South Korea said that many countries have technical regulations on lithium ion cells and batteries that are aligned with international standards, but China's regulation was not harmonized with IEC 62133. South Korea requested that China redesign its standard to be in conformity with the international standard, and if it cannot do

[32] Japan's arguments are found in G/TBT/M/63, para. 3.4.
[33] South Korea's arguments are found in G/TBT/M/63, para. 3.5.

this, it ought to justify the reasons for it.[34] The concerns about harmonization were repeated during the March 2015 meeting[35] and the June 2015 meeting.[36]

2-2. China's justification

In all four meetings, China responded to South Korea's remarks by emphasizing the objective of its regulation: to ensure the safety and health of its people.[37] China said that the regulation was necessary to protect consumers from potential injuries and deaths caused by lithium batteries.[38]

In addition to naming its objective, China explained the extensive work put into the drafting process and the fairness of it. China narrated the timeline of the drafting procedure, which began in 2008 when a working group consisting of over 40 lithium producers and research institutes not only from China, but also from abroad, was assembled. China asserted that "many foreign enterprises" were included in the working group, which worked for 3 years, conducting surveys, holding discussions, and asking for comments, before drawing up the final draft standard.[39]

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[34] G/TBT/M/64, para. 2.229.
[35] See G/TBT/M/65, para. 2.199.
[36] See G/TBT/M/66, para. 3.204.
[37] See G/TBT/M/63, para. 3.6, G/TBT/M/64, para. 2.230, G/TBT/M/65, para. 2.230, and G/TBT/M/66, para. 3.205.
[38] See G/TBT/M/64, para. 2.230, G/TBT/M/65, para. 2.230, and G/TBT/M/66, para. 3.205.
[39] See G/TBT/M/64, para. 2.230, G/TBT/M/65, para. 2.230, and G/TBT/M/66, para. 3.205.

Addressing the concerns about the differences between its draft and the relevant international standard, China acknowledged the differences between GB 31241 and IEC 62133 and attributed the disparities to the extent of application – in other words, the Chinese standard took relevant parts of IEC 62133 while adjusting some portions to better suit the properties of lithium batteries.[40]

China communicated its objective, which is a legitimate one under the TBT Agreement, [41] and tackled the concerns about harmonization by acknowledging the differences but claiming the differences were appropriate. Based on these justifications, China believed that it had used IEC 62133 as a basis for its national standard, and "therefore did not violate any TBT Agreement provision or principle."[42]

[40] See G/TBT/M/63, para. 3.6, G/TBT/M/64, para. 2.230, G/TBT/M/65, para. 2.230,, and G/TBT/M/66, para. 3.205.
[41] TBT Agreement Article 2.4 lists the legitimate objectives. It reads, "…Such legitimate objectives are*, inter alia:* national security requirements; the prevention of deceptive practices; protection of human health or safety, animal or plant life or health, or the environment."
[42] G/TBT/M/66, para. 3.205.

IV. Analysis of China's technical regulation

While the minutes of the TBT Committee meetings offer a general idea of the arguments of interested parties, they alone do not corroborate any one party's claims. It is therefore necessary to compare the actual articles of the Chinese technical regulation to those of the relevant international standard.

South Korea made the claim that certain articles in GB 31241 stand in contrast with IEC 62133 testing requirements. By comparing the actual guidelines of GB 31241 and IEC 62133, the author identified the dissimilarities between the two.

1. The differences between China's technical regulation and the relevant international standard

China's national standard deviates from the relevant international standard by adding to and modifying certain testing requirements. Article 6.3 of GB 31241 lays down the overcharge testing specificities for lithium cells, and while IEC 62133 requires overcharge testing for batteries, it does not require overcharge testing for cells. [43] Furthermore, Article 10.6 (Short-circuit

[43] Refer to GB 31241 Article 6.3 for more details on overcharge testing requirements for cells.

protection) is unique to the Chinese technical regulation.[44] This test item is not found in IEC 62133. Evidently, China's technical regulation includes testing procedures that are absent in the relevant international standard and demands extra testing requirements for manufacturers willing to export to China.

Furthermore, there are disparities in terms of testing temperature and time period. A review of Article 7.2 reveals the different temperature cycling temperatures in the Chinese regulation and its counterpart. China's national standard requires a battery to be placed in a temperature of -40℃±2℃[45] while Article 7.2.4 of the IEC standard requires an ambient temperature of -20℃±2℃.[46] There is a 20℃ gap between the two safety requirements. Moreover, Article 7.8 (Thermal Abuse) of GB 31241 requires a battery to be fully charged and placed in a test chamber for 30 minutes, which is 20 minutes longer than the corresponding IEC requirement of 10 minutes.[47]

[44] Refer to GB 31241 Article 10.6 for more details on short-circuit protection testing requirements.
[45] GB 31241 Article 7.2 requires tested batteries to be kept at a temperature of -40℃±2℃ for 6 hours.
[46] IEC 62133 Article 7.2.4 requires tested batteries to be kept at a temperature of -20℃±2℃ for 4 hours.
[47] IEC 62133 Article 7.3.5 requires a cell to be kept at a temperature of 130℃±2℃ for 10 minutes before the test is stopped.

2. The consistency of China's technical regulation with the relevant international standard

South Korea did not question whether IEC 62133 is an international standard within the framework of the TBT Agreement, nor did it raise any concerns about the IEC as an international standardizing body. China too did not deny that IEC 62133 is the relevant international standard but insisted that their national standard, though not completely identical to IEC 62133, does correspond to it.[48]

Under the consensus that IEC 62133 is a relevant international standard, it is necessary to examine the meaning of the phrase "as a basis for." The Appellate Body of *EC—Sardines* calls on the dictionary definition of "basis," which defines it as "the main constituent," "a thing on which anything is constructed and by which its constitution or operation is determined," "a determining principle," or "a set of underlying or agreed principles."[49] The Appellate Body further added that "a very strong and very close relationship" must exist between an international standard and a technical regulation.[50] In *EC – Sardines*, the European Communities' argued that a "rational relationship," which "exists when the technical regulation is informed in its overall scope by

[48] G/TBT/M/63, para. 3.6.
[49] Appellate Body Report, *EC—Sardines*, para. 244.
[50] Du (2010), p.302.

the international standard," is sufficient to satisfy the "as a basis for" requirement, but this claim was rejected by the Appellate Body.[51] The Appellate Body further added that if the international standard and the technical regulation are contradictory, then the relevant international standard does not serve as the basis for the technical regulation.[52] Hence, in the case with China's safety requirement, the technical regulation must not only share a rational relationship with the international standard, but must have "a very strong and very close relationship."[53]

In *EC – Sardines*, the technical regulation had to have a "very strong and very close relationship" with the relevant international standard and there must not have been a contradiction. As seen in the comparison between GB 31241 and IEC 62133, several differences in testing requirements are found. The two guidelines clearly differ in certain requirements for temperature and time. As noted above, the Chinese regulation includes testing procedures nonexistent in the IEC standard. For these reasons, there appears to be a contradiction. Then do these disparities constitute a violation of Article 2.4 of the TBT Agreement? It is difficult to answer "Yes" to this question because international standards can be used as guidelines without being copied word for

[51] Ibid., p.303.
[52] Maidana-Eletti (2014), p.223.
[53] Appellate Body Report, *EC—Sardines*, para. 245.

word. While *EC – Sardines* sheds some light onto how the phrase "as a basis for" is to be interpreted, the author cannot issue a verdict on whether or not China's technical regulation satisfies the conditions.

However, despite South Korea's repeated appeals to China to harmonize its safety requirements with the requirements of the relevant international standard, China put its national standard into force without revising the controversial articles. Though China may contend that it has a legitimate objective, to ensure the safety of its people, for not accommodating to South Korea's requests, China's unwillingness to align its technical regulation with the relevant international standard does appear to go against the spirit of cooperation and harmonization of the TBT Agreement.

3. An insufficient "reasonable interval" for South Korean exporters in the context of Article 2.12 of the TBT Agreement

A look into the text of TBT Agreement helps to understand the legality of the entry into force of China's technical regulation. TBT Agreement Article 2.12 reads:

"Except in those urgent circumstances referred to in paragraph 10,

> Members shall allow a reasonable interval between the publication of technical regulations and their entry into force in order to allow time for producers in exporting Members, and particularly in developing country Members, to adapt their products or methods of production to the requirements of the importing Member."[54]

WTO Members must allow a "reasonable interval" between the publication of their technical regulation and the entry into force of the regulation. The TBT Agreement makes it mandatory for Members to grant other Members a reasonable interval so that producers are able to adapt to new regulations and meet the requirements of the Member implementing the technical regulation.

While the agreement holds WTO Members accountable for allowing this implementation period, it does not say exactly how long this interval ought to be. Despite the lack of clarity in the TBT Agreement, the "2001 Ministerial Decision on Implementation-related Issues and Concerns" clears up the issue. The decision reads:

[54] TBT Agreement Article 2.12.

> "Subject to the conditions specified in paragraph 12 of Article 2 of the Agreement on Technical Barriers to Trade, the phrase "reasonable interval" shall be understood to mean normally a period of not less than 6 months, except when this would be ineffective in fulfilling the legitimate objectives pursued."[55]

A "reasonable interval" is understood to be, under normal circumstances, a time period of at least 6 months, as observed in the Ministerial Conference's decision.

Although the publication of GB 31241 was made on December 5, 2014 and the implementation was made on August 1, 2015,[56] the Korean government had continuously worked with the Chinese government to reach an agreement on removing requirements that were not in line with the international standard.[57] However, in October 2015, the Chinese government announced that China Compulsory Certification (CCC) would be granted when the criteria of GB 31241 were met.[58] China declared that this order would be put into force starting from January 31, 2016, which was less than 4 months after the announcement. Taking into consideration the fact that China gave South

[55] WT/MIN(01)/17, para. 5.2.
[56] The dates are indicated in GB 31241.
[57] Korean Agency for Technology and Standards (2017), p.127.
[58] Korea International Trade Association (2016), p.1.

Korean exporters a period of less than 4 months to meet the requirements, despite requests from the Korean government for a period of at least 6 months, China did not give South Korea a reasonable interval based on the clarification provided by the 2001 Ministerial Conference decision. It can be argued that China acted inconsistently with its obligations under Article 2.12 of the TBT Agreement.

4. The implications and effects of China's technical regulation

A fundamental principle of the TBT Agreement is non-discrimination, and when it comes to technical regulations and national treatment, WTO Members are expected to uphold this pillar of non-discrimination.[59] China's technical regulation, in the substantive sense, does not discriminate against other Members. GB 31241 applies to all producers of lithium ion cells and batteries for portable electronic equipment, whether they are Chinese producers or South Korean producers. The differences between the Chinese national standard and the IEC standard affect Chinese producers equally because they too must meet these requirements.

The standard is non-discriminatory in its universal application, but the

[59] TBT Agreement Article 2.1 upholds the notion of non-discrimination. It reads, "Members shall ensure that in respect of technical regulations, products imported from the territory of any Member shall be accorded treatment no less favourable than that accorded to like products of national origin and to like products originating in any other country."

drafting procedure of GB 31241 hints at the possibility of Chinese lithium ion battery manufacturers gaining an early advantage. Growing Chinese exporters of lithium ion batteries, such as Shenzhen BAK Battery Co., Ltd., and Tianjin Lishen Battery Co., Ltd.,[60] participated in the development of China's national standard.[61] It can be said that these manufacturers are experts in their field, hence their contribution to the drafting of the national standard. However, this leaves the door open for these manufacturers to work with the Chinese government in shaping the regulation to their liking. Furthermore, their early access gives them a competitive edge over other manufacturers, especially foreign manufacturers, in understanding the requirements they are to satisfy. In these ways, although the Chinese measure is non-discriminatory, its drafting process may have awarded Chinese producers a head start.

On the other hand, Korean exporters were at a disadvantage because of the short transition period they were given. As explained above, South Korea asked China for a reasonable interval of at least 6 months for Korean businesses to receive certification under the new safety requirements.[62]

[60] Patil (2008), p.3, notes the rapid development of these manufacturers and the increase in their market share.
[61] The foreword of GB 31241 lists the drafting organizations of the standard. They are: China Electronics Standardization Institute, Shenzhen BAK Battery Co., Ltd., Tianjin Lishen Battery Co., Ltd., Dongguan Amperex Technology Co., Ltd., Sunwoda Electronics Co., Ltd., Scud (Fujian) Electronics Co., Ltd., Vimicro Co., Ltd., and Beijing Saixi Science and Technology Development Co., Ltd.
[62] Korean Agency for Technology and Standards (2017), p.127.

Because it usually takes about 6 months for businesses to receive certification for a new regulation, the Korea International Trade Association (KITA) believed that companies would not be prepared to export by January 31 and thus forecasted a negative impact on its exports to China.[63] Eventually, GB 31241 was put into effect on January 31, 2016 as foretold and without any revisions, and Korean manufacturers had to comply with the safety requirements before exporting to China.

[63] Korea International Trade Association (2016), p.1.

V. Recommendations

South Korea explored the possibility of a mutually agreed solution at the TBT Committee meetings, and although the interactions provided clarification, information, and China's justification of its national standard, South Korea did not succeed in persuading China to make adjustments. In addition to the TBT meetings, South Korea's Council for Non-tariff Barriers and the Korean Agency for Technology and Standards jointly submitted policy recommendations to the Chinese government,[64] and government representatives conducted bilateral talks with China regarding the matter during the March 2016 TBT Committee meeting period.[65] However, these efforts also failed to inspire China to harmonize its standard with the relevant international standard.

Since dialogue has proved to be ineffective in this case and in other cases concerning China's technical regulations,[66] the implication is that alternative courses of action may be necessary in the future. Recourse to the mediation procedure of the Korea-China FTA and taking collective action in

[64] Ibid.
[65] Korean Agency for Technology and Standards (2017), p.127.
[66] South Korea and other WTO Members have not been able to convince China to remove the limitations on the number of infant formula recipes and product lines in China's "Formula Registration Regulation for Infant and Follow-up Formula" (See G/TBT/M/70 para. 2.257, 2.258).

the WTO dispute settlement system are two options that can produce a more favorable outcome for South Korea.

1. Mediation as a solution – Revision of the Korea-China FTA mediation mechanism to follow after the Korea-EU FTA mediation mechanism

The Korea-China FTA, put into force in December 2015, includes a mediation procedure whose purpose is to assist the parties in reaching a mutually agreed solution on certain trade issues.[67] If one party believes that a non-tariff measure negatively affects trade between the two countries, then South Korea and China are encouraged to begin the mediation procedure.[68] The mediation procedure commences when both parties agree upon it.[69] Once the procedure is started, it is to be carried out in an expeditious manner with the

[67] Korea-China FTA Article 20.5.5 reads, "The Parties should endeavor to participate in the mediation procedure provided for in paragraph 4 in an expeditious way and with the aim to reach a mutually agreed solution within a reasonable period of time with the assistance of a mediator designated or appointed by the Parties upon agreement. Where the Parties have agreed to a solution, each Party should take any measure necessary to implement the mutually agreed solution."

[68] Korea-China FTA Article 20.5.4 reads, "The Parties are encouraged to enter into a mediation procedure in particular when a Party believes that a certain non-tariff measure adversely affects trade between the Parties and that such measure is related to the matter falling under market access of goods of this Agreement and is subject to this Chapter, unless the Parties otherwise agree."

[69] Korea-China FTA Article 20.5.1. The text reads, "Good offices, conciliation, and mediation are procedures undertaken voluntarily if the Parties so agree."

assistance of a mediator chosen by the parties in agreement, and South Korea and China are to endeavor to come to a mutually agreed solution.[70]

The inclusion of an article on mediation is reassuring. With a case like China's safety requirements for lithium ion cells and batteries, South Korea has the right to request mediation. While this certainly is an option that may lead to a solution, the unspecific language may render the mediation mechanism not as effective as it ought to be. First, while Article 20.5 encourages both parties to come to a solution within a short period of time with the help of a mediator, it does not explain how the parties are to achieve this goal.[71] There are no guidelines for how the procedure is to be carried out. Second, no information is given on who the mediator ought to be, how the mediator is selected, or what role this person ought to take. Thus it is unclear as to how the parties are to proceed if they happen to agree on mediation.

In contrast to the Korea-China FTA mediation mechanism, the Korea-EU FTA provides a thorough and detailed process and timeline for mediation. Article 3 of Section A of Annex 14-A of the agreement begins with instructions on how a party is to initiate the mediation procedure through a written request.[72] Here, as it is in the Korea-China FTA, both parties must agree to

[70] See Korea-China FTA Article 20.5.5.
[71] Article 20.5 of the Korea-China FTA does not specify the steps of the procedure.
[72] Korea-EU FTA Annex 14-A Article 3.1.

enter the mediation process, but the Korea-EU FTA sets a 15-day time frame during which the party receiving the request for mediation "shall favourably consider the request."[73]

The next Article, Article 4, is titled, "Selection of a Mediator," and it describes the mediator selection process. It establishes a timeline for when the mediator is to be selected and who this mediator ought to be.[74] Next are the rules of the mediation procedure. Once the mediator is selected, the party initiating the mediation process must within 10 days send in writing an explanation of the problem to the mediator, and following this submission, the responding party has 20 days to send to the mediator any relevant information.[75] Next, the mediator has the option to consult with the parties either individually or jointly or receive the help of experts and stakeholders.[76] Following the consultation period, the mediator has 60 days to offer an opinion and a proposal for a solution for the parties to consider, and during this stage, the mediator may again individually or jointly meet with the parties.[77] The procedure is terminated when both parties sign a settlement agreement, when

[73] Korea-EU FTA Annex 14-A Article 3.2 says, "The Party to which such request is addressed shall favourably consider the request and provide a written reply to the request within 15 days of its receipt."
[74] Korea-EU FTA Annex 14-A Article 4.2 says, "The mediator shall be an expert on the subject matter to which the measure in question relates."
[75] Korea-EU FTA Annex 14-A Article 5.1.
[76] Ibid., Annex 14-A Article 5.2.
[77] Ibid., Annex 14-A Article 5.3.

the parties reach a mutual agreement during any step of the procedure, when the mediator declares that mediation is not justified any longer, or when a party provides a written declaration after looking through possible solutions and proposals offered by the mediator.[78] If the parties agreed upon a solution, the party to implement the solution "shall take any measure necessary to implement the mutually agreed solution without undue delay."[79]

The elaborate mediation procedure engraved into the Korea-EU FTA serves as an example after which the Korea-China FTA should follow. Not only does it encourage a party to accept the request for mediation ("shall favourably consider the request"), but it also boasts an unambiguous step-by-step procedure. In the long-run, a modification of the Korea-China FTA article on mediation to model itself after the mediation chapter of the Korea-EU FTA could revitalize it to be a viable settlement mechanism utilized by South Korea in such cases where its domestic industries are treated unfavorably. Resorting to a more robust mediation system requires the other party to favorably consider the request for intervention, and if the procedure is initiated, then the resolving of the issue at hand becomes a feasible outcome.

[78] Ibid., Annex 14-A Article 5.5.
[79] Ibid., Annex 14-A Article 6.1.

Although the Korea-China FTA allows parties to make amendments to the agreement,[80] modifying the text of a free trade agreement is no easy matter. However, South Korea can work with China to explore the possibility of rewriting the free trade agreement's section on mediation.

2. Collective action in the WTO dispute settlement system – A potential solution with limitations in implementation

The analysis of the differences between China's technical regulation and the relevant international standard and the reasonable interval granted to South Korea points to the possibility that China acted inconsistently with its WTO obligations. In future similar cases, South Korea may have to resort to the WTO dispute settlement mechanism. While a dispute settlement is a viable option, lone legal action taken by a country may subject the complainant to political or economic pressure by the respondent, especially if the respondent is a major global power like China. South Korea, instead of entering the battlefield alone, can join other parties that are negatively impacted to take collective action. If South Korea and Japan and other affected parties had collectively contested China's safety requirements for lithium ion cells and batteries, then the potential economic, political, and diplomatic strains in the aftermath of the

[80] See Korea-China FTA Article 22.2.

dispute would have been diminished through the buffer of multiple complainants. Thus, collective action can mitigate political tensions while resolving the issue for multiple parties.

It is interesting to note that collective action against China is no novel concept. Since its accession to the WTO, China has been the respondent in 39 dispute settlement cases.[81] In approximately half of these cases, China has been subject to collective action, which means two or more countries have collectively requested consultations with China in the WTO court system over China's measures.[82] In *China – Measures Affecting Imports of Automobiles*, the European Communities (now the European Union), the United States, and Canada collectively sued China, and the Panel, for the most part, sided with the

[81] World Trade Organization. *Disputes by member*. Retrieved from https://www.wto.org/english/tratop_e/dispu_e/dispu_by_country_e.htm (Accessed June 30, 2017).

[82] The cases, grouped by measure, not by dispute settlement number, are:
1. *China—Measures Affecting Imports of Automobiles* (DS339/EC, DS340/US, DS342/Canada).
2. *China—Certain Measures Granting Refunds, Reductions or Exemptions from Taxes and Other Payments* (DS358/US, DS359/Mexico).
3. *China—Measures Affecting Financial Information Services and Foreign Financial Information Suppliers* (DS372/EC, DS373/US, DS378/Canada).
4. *China—Grants, Loans, and Other Incentives* (DS387/US, DS388/Mexico, DS390/Guatemala).
5. *China—Measures Related to the Exportation of Various Raw Materials* (DS394/US, DS395/EC, DS398/Mexico).
6. *China—Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum* (DS431/US, DS432/EU, DS433/Japan).
7. *China—Measures Imposing Anti-Dumping Duties on High-Performance Stainless-Steel Seamless Tubes ("HP-SSST") from Japan* (DS454/Japan, DS460/EU).

complainants.[83] In *China – Measures Related to the Exportation of Rare Earths, Tungsten, and Molybdenum*, the United States, the European Communities, and Japan were the complainants, and the decision of the Panel was in their favor.[84] As seen in these two cases, collective action has yielded positive results for complainants.

Another encouraging observation about a potential dispute settlement with China is China's track record suggests that it is likely to comply with the recommendations issued by the Dispute Settlement Body (hereinafter "DSB"). Tong Qi makes note of China's excellent record of implementing case decisions – China has brought its measures to conformity in the aftermath of several dispute settlements. Given the DSB recommendations following the *China – Measures Affecting Imports of Automobiles* ruling, China removed certain problematic measures to bring its Automobile Industry Development Policy into conformity with DSB recommendations. In the aftermath of *China – Measures Affecting the Protection and Enforcement of Property Rights,* China's National People's Congress approved the amendment of the Chinese Copyright Law, and the State Council allowed the revision of China's Regulations for Customs Protection of Intellectual Property Rights in order to fulfill DSB

[83] See the Panel Report (WT/DS339/R, WT/DS340/R, and WT/DS342) for *China—Measures Affecting Imports of Automobiles.*
[84] See the Panel Report (WT/DS431/R, WT/DS432/R, WT/DS433/R) for *China—Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum.*

recommendations.[85] In these ways, China has displayed a degree of compliance, and therefore, a ruling in the complainant's favor will likely lead to China's observance of DSB recommendations. China's willingness to listen to DSB recommendations is an encouraging observation for South Korea if it is to consider a collective action case against China in the future.

Although China's compliance is probable in the case of a favorable ruling for South Korea with regards to an insufficient "reasonable interval" for meeting new requirements, there remains the problem of practicality in the implementation of a ruling. While China's violation may be theoretically clear, it is unclear as to how China is to rectify the problem in these situations. It would make little sense to grant South Korean battery producers an additional 2 or 3 months to make up for the incomplete 6-month interval of the past. Exporters of lithium ion batteries would already have fulfilled China's safety requirements, and this would render additional time meaningless. Another possible outcome is for China to repeal its measure completely or withdraw its measure and renotify the WTO, thereby giving Members another period for comments. However, this course of action would not correct the damage that has been done. In fact, doing so would amount to wasted time and money for

[85] Qi (2013), p.164-165.

South Korean exporters, who would have spent their resources to complete the testing requirements.

Therefore, there is the need for a better solution for dealing with an insufficient “reasonable interval” than to simply retract a measure or offer meaningless, extra time. The WTO must draw up a system that adequately compensates an injured party and penalizes the perpetrator for the violation of the “reasonable interval” provision. Until this is done, similar scenarios will continue to surface.

VI. Conclusion

This paper reviewed the concept of international standards in the TBT Agreement and Members' obligations to form technical regulations on the basis of relevant international standards. China asserted that IEC 62133 was used as a basis for drafting its technical regulation, GB 31241. However, several articles were different from those present in the relevant international standard, and South Korea pointed out these differences and requested through TBT Committee meetings and bilateral efforts that China harmonize its safety requirements with the relevant international standard.

Eventually, China not only did not revise its technical regulation, but it also granted South Korean manufacturers a reasonable interval that fell short of the reasonable interval defined by the "2001 Ministerial Decision on Implementation-related Issues and Concerns." As a consequence, Korean exporters had to comply with China's requirements in the short period they were given.

South Korea's approach was to engage in dialogue. However, these efforts were unfruitful, and other alternative options are available for use, the first being mediation. The Korea-China FTA mediation procedure is a mechanism that encourages the parties to come to a mutually agreed solution.

While the mediation mechanism is incorporated into the free trade agreement, it can be enhanced if it is amended to imitate the detailed mediation procedure of the Korea-EU FTA. Redesigning the mediation mechanism can render it a more feasible option for future cases. The second recommendation is for South Korea to partake in collective action against China if a similar situation arises. By doing so, South Korea will reduce the concentration of political and economic pressure on itself, and it can rely on China to implement DSB recommendations in the event that the decision is in its favor. How South Korea will handle these trade issues with China in the future, whether it will resort to measures beyond discourse, is to be seen.

Bibliography

Publications

Du, Michael M. 2010. "Reducing Product Standards Heterogeneity through International Standards in the WTO: How Far across the River?" *Journal of World Trade* 44, no. 2:295-318.

International Electrotechnical Commission. “IEC 62133:2012, Secondary cells and batteries containing alkaline or other non-acid electrolytes – Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications.” Published on December 6, 2012.

Korean Agency for Technology and Standards. 2017. “2016 무역기술장벽(TBT) 보고서.” Korean Agency for Technology and Standards, Ministry of Trade, Industry and Energy.

Korea International Trade Association. 2016. “중국 리튬이온전지 안전기준 강화, 우리 IT 제품의 대중 수출에 애로가 생겨.” Korea International Trade Association.

Maidana-Eletti, Mariela. 2014. "International Food Standards and WTO Law." *Deakin Law Review* 19, no. 2:217-241.

Patil, Pandit G. 2008. “Developments in Lithium-Ion Battery Technology in The Peoples Republic of China.” Argonne National Laboratory.

Pogoretskyy, Vitaliy, and Tatiana Yanguas. 2016. “From 'Standard-Takers' to 'Standard-Makers': Developing Countries and Least-Developed Countries' Perspectives in the Harmonization of Technical Regulations Through International Standards.” *Global Trade and Customs Journal, 11*(9):378-387.

Qi, Tong. 2012. China's First Decade Experience in the WTO Dispute Settlement System: Practice and Prospect.” *Asian Journal of WTO and International Health Law and Policy, 7*(1):143-179.

Schroder, Humberto Z. 2009. "Definition of the Concept 'International Standard' in the TBT Agreement." *Journal of World Trade* 43, no. 6:1223-1254.

Standardization Administration of the People’s Republic of China. “GB 31241-2014, Lithium ion cells and batteries used in portable electronic equipments – Safety requirements.” Issued on December 5, 2014.

Wijkström, Erik, and Devin McDaniels. 2013. "Improving Regulatory Governance: International Standards and the WTO TBT Agreement." *Journal of World Trade (Law-Economics-Public Policy)* 47, no. 5:1013-1046.

WTO Documents

Agreement on Technical Barriers to Trade

World Trade Organization. Appellate Body Report for European Communities – Trade Description of Sardines. WT/DS231/AB/R. September 26, 2002.

World Trade Organization. Implementation-related issues and concerns. WT/MIN(01)/17. November 20, 2001.

World Trade Organization. Minutes of the Meeting of 18-19 June 2014. G/TBT/M/63. September 19, 2014.

World Trade Organization. Minutes of the Meeting of 5-6 November 2014. G/TBT/M/64. February 10, 2015.

World Trade Organization. Minutes of the Meeting of 18-19 March 2015. G/TBT/M/65. May 28, 2015.

World Trade Organization. Minutes of the Meeting of 17-18 June 2015. G/TBT/M/66. September 17, 2015.

World Trade Organization. Minutes of the Meeting of 10-11 November 2016. G/TBT/M/70. February 17, 2017.

World Trade Organization. Notification. G/TBT/N/CHN/1016. December 20, 2013.

World Trade Organization. Panel Report, China – Measures Affecting Imports of Automobile Parts. WT/DS339/R, WT/DS340/R, WT/DS342/R. July 18, 2008.

World Trade Organization. Panel Report, China – Measures Related to the Exportation of Rare Earths, Tungsten, and Molybdenum. WT/DS431/R, WT/DS432/R, WT/DS433/R. March 26, 2014.

World Trade Organization. Twenty-First Annual Review of the Implementation and Operation of the TBT Agreement. G/TBT/38/Rev. 1. March 24, 2016.

Legal Texts

Free Trade Agreement between the Government of the People's Republic of China and the Government of the Republic of Korea.

Free Trade Agreement between the Republic of Korea, of the One Part, and the European Union and its Member States, of the Other Part.

Online Sources

International Electrotechnical Commission. 2017. “Who we are.” Accessed April 3, 2017. http://www.iec.ch/about/profile/members.htm.

International Organization for Standardization. “SAC China.” Accessed April 14, 2017. https://www.iso.org/member/1635.html.

World Trade Organization. “Disputes by member.” Accessed June 30, 2017. https://www.wto.org/english/tratop_e/dispu_e/dispu_by_country_e.htm.

Abstract (Korean)

국문초록

중국은 2013 년 12 월 “휴대용 전자제품용 리튬이온전지 및 전지팩 – 안전요구사항”이라는 기술규제를 세계무역기구(WTO)에 통보하였다. 통보 후 한국은 중국의 규정이 관련 국제표준과 합치하지 않는다는 특정무역현안(STC)을 공식 제기하였다. 한국이 중국의 안전규제 수정을 여러 차례 요청하였음에도 불구하고 중국은 수정없이 기존 기술규제를 시행하였고, 한국 수출기업들에게 이에 적응할 수 있는 “합리적 기간”을 제공하였는지가 논란의 소지가 되었다. 따라서 본 논문은 중국의 안전규제 통보와 시행 사이에 일어났던 사건들을 살펴보며, 중국 안전규제와 관련 국제표준의 합치성을 비교, 분석한다. 이와 함께 중국이 한국 수출기업들에게 자국 규정의 준수를 위한 합리적 기간을 제공했는지 여부를 모색해 볼 것이다. 궁극적으로 본 연구를 통해 한국이 향후 중국과 유사 통상갈등 시 참고할 수 있는 시사점을 제공하고자 한다.

주제어: TBT 협정, 기술규제, 리튬이온전지, WTO, 중국, 합리적 기간

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